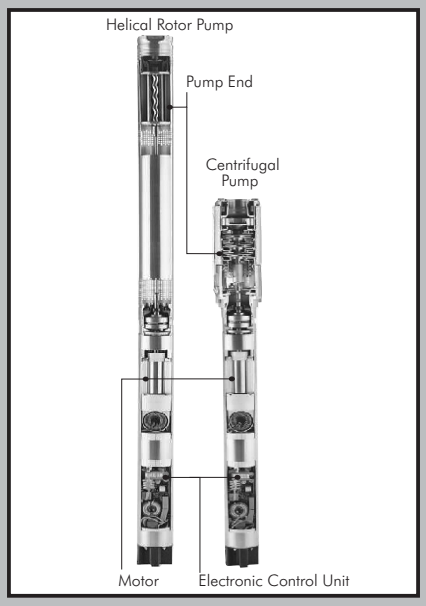
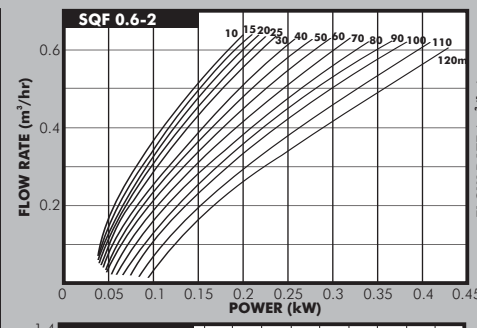
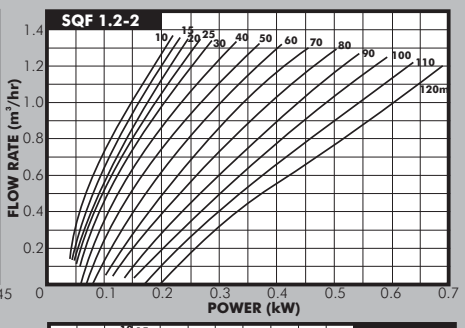
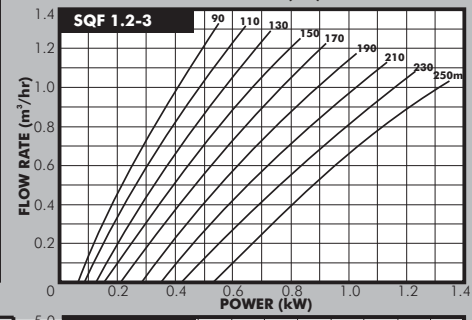
GRUNDFOS®

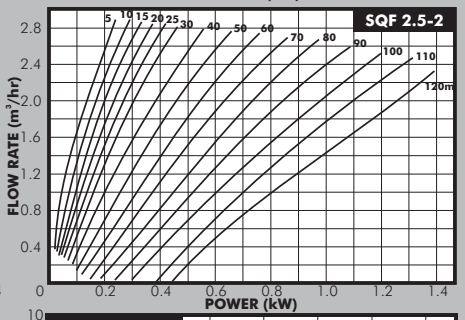
# SQ Flex
## Solar Pumps

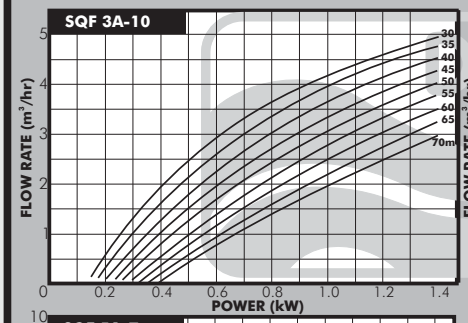


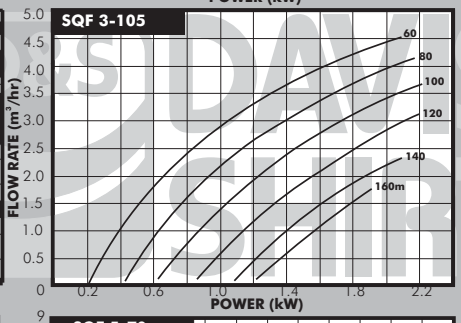



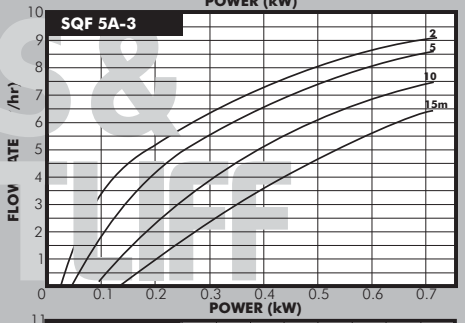



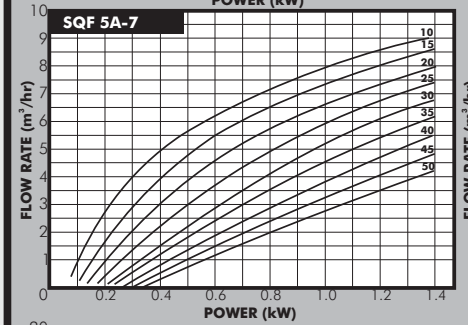



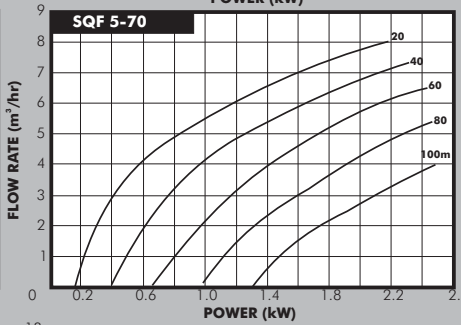



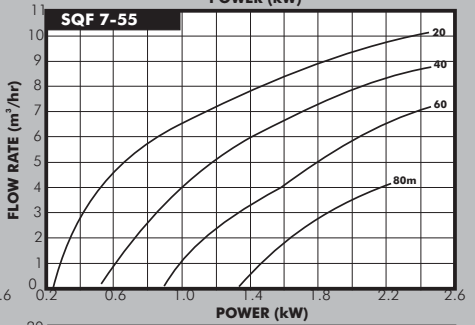



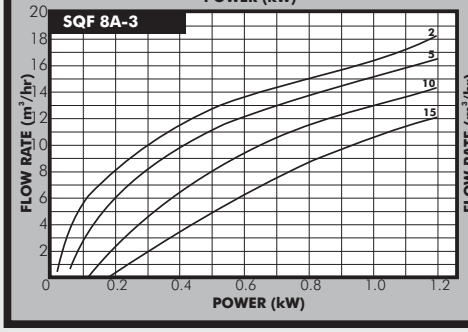



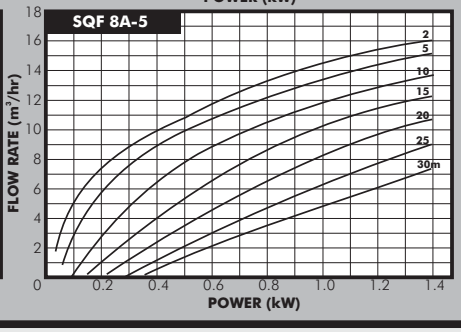



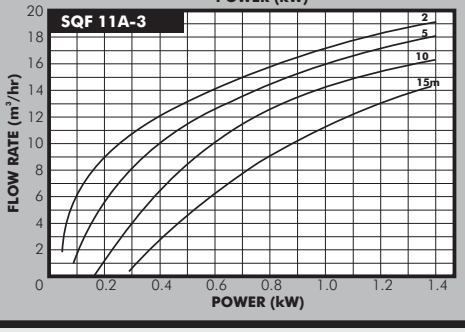



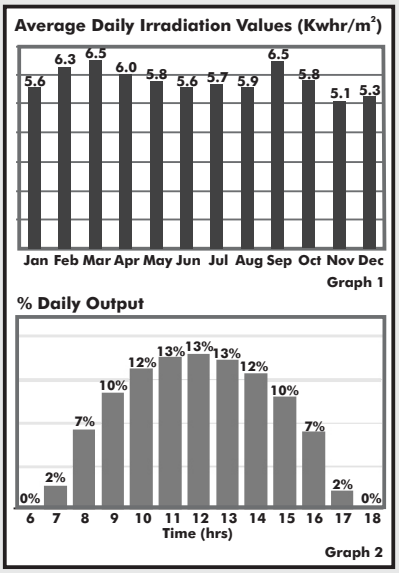




## PUMP OUTPUTS

Pump output curves are given at standard test conditions of 1000W/m$^2$ solar irradiance and 25$^0$ C .

Output will vary throughout the year depending upon prevailing irradiation levels. For estimated daily outputs at continuous pumping multiply by the daily irradiation given in Graph 1(see drawing). For indicative purposes factors of 1.1 can be applied for hot arid areas and 0.9 for temperate high altitude areas in the Tropics. Output will vary through out the day as a proportion of the estimated hourly irradiation as shown in Graph 2.

**NOTE:** Output estimations are strictly indicative. More accurate projections are available using manufacturers data when the exact site location and installation arrangement is defined. This information will be provided with all offers.




## PUMP

A range of seven models of helical rotor pumps for high heads and low flows (suitable for 3" boreholes) and six models of centrifugal pumps for low heads and high flows (suitable for 4" boreholes) are offered with stainless steel used extensively in construction for both pump designs. Pump model selection is determined by the duty requirement.

## MOTOR

Grundfos MSF 3 high efficiency permanent magnet motor is specified with all pump types. The motors can be powered by either DC or AC voltage within the range of 30-300V DC and 1X90-240V, 50/60Hz AC. An integral control module uses MPPT technology that continuously optimises output frequency to maximize system efficiency and protects against over and under voltage (except lightning), electrical overload and over temperature. Effective dry running protection is provided by a sensor in the motor cable.

## CONTROL UNITS

A variety of switch boxes are available for the various installation options including IO50 for a manual solar system, IO101 for solar/generator systems and IO102 for a wind system. In addition a CU200 (1400W) or CIU903 (2500W) control units are offered which provides for high-level switch control together with system monitoring and alarm indication.

## SOLAR MODULES

SQ Flex systems are recommended to be powered by crystalline photo voltaic modules connected in arrays to provide the power selected. Arrays should be connected to produce at least 40V input voltage with higher voltage of around 100V recommended for maximum efficiency operation.

## ACCESSORIES

A complete range of accessories including connecting cabling and fittings, drop cable and module support structures are available to provide all necessary components for a complete site installation.

## PUMP DATA

| Model | Motor Size (W) | Voltage (V) | Current (A) | Dimensions (mm) | | | Pump weight (kg) |
|---|---|---|---|---|---|---|---|
| | | | | Rp (inch) | L | B | |
| SQF 0.6-2 | 1400 | 30-300 | 8.4 | 1.25 | 1185 | 74 | 9 |
| SQF 1.2-2 | | | | 1.25 | 1225 | 74 | 10 |
| SQF 1.2-3 | | | | 1.25 | 1295 | 74 | 10 |
| SQF 2.5-2 | | | | 1.25 | 1247 | 74 | 10 |
| SQF 3A-10 | | | | 1.25 | 968 | 101 | 11 |
| SQF 3-105 | 2800 | 100-300 | 12 | 1.25 | 942 | 74 | 7 |
| SQF 5A-3 | 1400 | 30-300 | 8.4 | 1.5 | 815 | 101 | 10 |
| SQF 5A-7 | | | | 1.5 | 920 | 101 | 10 |
| SQF 5-70 | 2500 | 100-300 | 12 | 1.5 | 941 | 74 | 6 |
| SQF 7-55 | | | | 1.5 | 860 | 74 | 6 |
| SQF 8A-3 | 1400 | 30-300 | 8.4 | 2 | 920 | 101 | 11 |
| SQF 8A-5 | | | | 2 | 1011 | 101 | 12 |
| SQF 11A-3 | | | | 2 | 982 | 101 | 12 |